

December 06, 2017



U.S. Department
of Transportation

East Building, PHH-30
1200 New Jersey Avenue S.E.
Washington, D.C. 20590

**Pipeline and Hazardous
Materials Safety Administration**

DOT-SP 20356
(SECOND REVISION)

(FOR RENEWAL, SEE 49 CFR § 107.109)

1. GRANTEE: (See individual authorization letter)
2. PURPOSE AND LIMITATION:
 - a. This special permit authorizes the transportation in commerce of lithium ion batteries exceeding 35 kg net weight per package by cargo-only aircraft. This special permit provides no relief from the Hazardous Materials Regulations (HMR) or the International Civil Aviation Organization's Technical Instructions for the Safe Transport of Dangerous Goods by Air (ICAO TI) other than as specifically stated herein. The most recent revision supersedes all previous revisions.
 - b. The safety analyses performed in the development of this special permit only considered the hazards and risks associated with the transportation in commerce.
 - c. Unless otherwise stated herein, this special permit consists of the special permit authorization letter issued to the grantee together with this document.
 - d. This special permit serves as an approval under Special Provision A99, Paragraph 3 of Section IA.2 of Packing Instruction 965 of the ICAO TI, 49 CFR § 173.185(b)(5) and as a "Competent Authority Approval" as defined under § 107.1.
3. REGULATORY SYSTEM AFFECTED: 49 CFR Parts 106, 107 and 171-180 and the ICAO TI.

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4. REGULATIONS FROM WHICH EXEMPTED: 49 CFR § 172.101 Hazardous Materials Table Column (9B) in that lithium batteries may have a mass exceeding 35 kg per package, except as specified herein.
5. BASIS: This special permit is based on the modification application of Tesla Motors, Inc. dated October 2, 2016 submitted in accordance with § 107.105 and the public proceeding thereon and additional information dated September 20, 2017.
6. HAZARDOUS MATERIALS (49 CFR 172.101):

| Hazardous Materials Description | | | |
|--|-----------------------------------|------------------------------|----------------------|
| Proper Shipping Name | Hazard Class/ Division | Identification Number | Packing Group |
| Lithium ion batteries* | 9 | UN3480 | N/A |

*Batteries must be comprised of form factor 2170 lithium ion cells and modules comprised of those cells as described in Tesla Motors, Inc.'s October 2, 2016 and September 20, 2017 applications on file with the Office of Hazardous Materials Safety Approvals and Permits Division (OHMSAPD).

7. SAFETY CONTROL MEASURES:

a. Safety Controls:

(1) Authorized batteries are: (i) the modules which contain non-wired cells (non-wired battery module); (ii) the modules in which cells are electrically connected; (iii) the Pods; (iv) the Powerwalls; and (v) the Powerpacks.

(2) A summation of energy ratings of all cells in a non-wired battery module may not exceed 20 kWh.

(3) Each non-wired battery module may not exceed a mass of 175 kg.

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(4) Each battery module and non-wired battery module is composed of not more than the number of cells noted in the modification application dated September 20, 2017 on file with OHMSAPD.

(5) Each battery module, Pod, and Powerwall may not exceed an energy rating of 20 kWh and a mass of 175 kg.

(6) Each Pod and Powerwall must be comprised of not more than one battery module.

(7) Each Powerpack must not exceed a capacity of 600 kWh and a mass of 3,000 kg.

(8) Battery modules, Pods, Powerwalls and Powerpacks must be equipped with an effective means of preventing dangerous reverse current flow.

(9) Battery terminals must have effective insulation to prevent short circuits during transport.

(10) Cells and battery modules must be protected against short-circuiting.

(11) Each battery module, non-wired battery module, Pod, Powerwall and Powerpack must be offered for transportation at a state of charge not exceeding 30%.

b. Testing Requirements:

(1) Each cell within the battery modules and non-wired battery module must have successfully passed the tests in accordance with the UN Manual of Tests and Criteria, 5th Revised Edition.

(2) Each battery module must have successfully passed the tests in accordance with the UN Manual of Tests and Criteria, 5th Revised Edition.

(3) The Pods, Powerwalls and Powerpacks need not be of a type that has passed the tests in the "UN Manual of Tests and Criteria, 5th Revised Edition" when each Pod, Powerwall and Powerpack has a Watt-hour rating greater than 6,200 Watt-hours and is equipped with a battery management system capable of monitoring the modules and preventing short circuit or over-discharge between the modules and any overheat or overcharge.

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c. Packaging Requirements:

(1) Pods, Powerwalls and Powerpacks:

(i) Each Pod, Powerwall and Powerpack must be comprised of modules having a strong, impact-resistant outer casing and weighing at least 12 kg.

(ii) Pods, Powerwalls and Powerpacks must be packaged in strong impact-resistant outer packagings.

(iii) Paragraphs 1 and 4 of the additional requirements in Section 1A.2, Packing Instruction 965 of the ICAO TI apply.

(2) Battery modules and non-wired battery modules:

(i) Each battery module and non-wired battery module must be packaged in an inner packaging that completely encloses the module.

(ii) Each inner packaging must be packaged in a UN 4D wooden box meeting the Packing Group II performance criteria in accordance with § 173.185(b) and Packing Instruction 965 of the ICAO TI.

(3) For batteries with a net weight greater than 30 kg, only one battery per package is authorized.

d. MARKING: Each package or over pack if used must be marked with the special permit number, "DOT-SP 20356", in accordance with § 172.301(c).

8. SPECIAL PROVISIONS:

a. A person who is not a holder of this special permit who receives a package covered by this special permit may reoffer it for transportation provided no modification or change is made to the package and it is reoffered for transportation in conformance with this special permit, the HMR and the ICAO TI.

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b. A current copy of this special permit must be maintained at each facility where the package is offered or reoffered for transportation.

c. This special permit in no way affects the need to obtain any required authorizations from other agencies of the United States Government or from the competent authorities of countries of origin, transit and destination.

d. The grantee must maintain a record of all activity conducted under the authority granted in this special permit and upon request make this information available to DOT representatives or enforcement officials. The record must contain a listing and number of shipments made to include:

(1) Dates of shipment; and

(2) Description of each type of shipment.

9. MODES OF TRANSPORTATION AUTHORIZED: Cargo-only aircraft.

10. MODAL REQUIREMENTS: A current copy of this special permit must be carried aboard each aircraft used to transport packages covered by this special permit. The shipper must furnish a copy of this special permit to the air carrier before or at the time the shipment is tendered.

11. COMPLIANCE: Failure by a person to comply with any of the following may result in suspension or revocation of this special permit and penalties prescribed by the Federal hazardous materials transportation law, 49 U.S.C. 5101 et seq:

- o All terms and conditions prescribed in this special permit and the Hazardous Materials Regulations, 49 CFR Parts 171-180.
- o Persons operating under the terms of this special permit must comply with the security plan requirement in Subpart I of Part 172 of the HMR, when applicable.
- o Registration required by § 107.601 et seq., when applicable.

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Each "Hazmat employee", as defined in § 171.8, who performs a function subject to this special permit must receive training on the requirements and conditions of this special permit in addition to the training required by §§ 172.700 through 172.704.

No person may use or apply this special permit, including display of its number, when this special permit has expired or is otherwise no longer in effect.

Under Title VII of the Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU)– "The Hazardous Materials Safety and Security Reauthorization Act of 2005" (Pub. L. 109-59), 119 Stat. 1144 (August 10, 2005), amended the Federal hazardous materials transportation law by changing the term "exemption" to "special permit" and authorizes a special permit to be granted up to two years for new special permits and up to four years for renewals.

12. REPORTING REQUIREMENTS: Shipments or operations conducted under this special permit are subject to the Hazardous Materials Incident Reporting requirements specified in 49 CFR §§ 171.15 - Immediate notice of certain hazardous materials incidents, and 171.16 - Detailed hazardous materials incident reports. In addition, the grantee(s) of this special permit must notify the Associate Administrator for Hazardous Materials Safety, in writing, of any incident involving a package, shipment or operation conducted under terms of this special permit.

Issued in Washington, D.C.:



for William Schoonover
Associate Administrator for Hazardous Materials Safety

Address all inquiries to: Associate Administrator for Hazardous Materials Safety, Pipeline and Hazardous Material Safety Administration, U.S. Department of Transportation, East Building PHH-30, 1200 New Jersey Avenue, Southeast, Washington, D.C. 20590.

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Copies of this special permit may be obtained by accessing the Hazardous Materials Safety Homepage at http://hazmat.dot.gov/sp_app/special_permits/spec_perm_index.htm. Photo reproductions and legible reductions of this special permit are permitted. Any alteration of this special permit is prohibited.

PO: Steve H/Andrew Eckenrode